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Educational Programs/A Better Way Than "Throw Away"

Established 1983

**C.U.R.E.**

Citizens Urge Rescue of the Environment

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Hanover, PA 17331

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**V.A.N.**

Victims Academic Network

Education Committee

December 28, 1994

Dr. David Satcher, Administrator  
Agency for Toxic Substance and  
Disease Registry  
1600 Clifton Road  
Room 2000, Mail Stop D 17  
Atlanta, GA 30333

Dear Dr. Satcher:

Thank you for meeting with our group on November 30, 1994, in Washington, D.C. I look forward to hearing from you soon regarding when the committee will meet and agenda items. These comments are being sent to you in hopes you will read and respond to them.

- This document contains material which has been corrected by C.U.R.E. dated June 28, 1993. Why?
- Site related or non-site related contamination remarks are not appropriate for ATSDR to include in the health assessment. This is about the health of people; not responsibility issues, and as such, fixing or denying the site relationship of the contamination is not the concern of the health assessors.
- No medical doctors, M.D.'s, were in the health assessment's "Preparers Of Report" list. While Epidemiology, Toxicology, Statistics, Health Advisors (please clarify), and Technical professions are necessary; they cannot replace the need for M.D.'s to assess human health. Also, Sociologists, Psychologists, Psychiatrists (M.D.'s), and Psycho-neuroimmunologists are sorely needed in order to truly perform a health assessment with more cooperation and interaction with the people who need the mitigation and preventative action from ATSDR.
- Why did the assessors not refer to the latest available toxicological profiles?
- There are major data gaps (grossly inadequate materials were reviewed).
- The health assessment process has been unsuccessful, and now intervention to mitigate and prevent further adverse health effects must begin.

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Dr. David Satcher, Administrator  
Agency for Toxic Substance and Disease Registry  
Page 2 of 2  
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- Victims deserve to have their health assessed by medical doctors (M.D.'s). Health assessments are about our health, safety, and well being. Technicians and statisticians may be helpful but not adequate. Lives of humans are at stake.
- Simple (yet all-important) details and comments go uncorrected repeatedly. This leads to major concerns about what other critical data is not correct or not considered.

Peace be with you,

Mary Minor, SFO  
C.U.R.E. Director

Enclosure

cc: Chief, PERISB/ATSDR  
Linda King, Environmental Health Network  
Stephen Maitland, Pennsylvania House of Representatives  
Steven R. Nickol, Pennsylvania House of Representatives  
Terry Punt, Pennsylvania Senate  
William F. Goodling, United States House of Representatives  
Harris Wofford, United States Senate  
Robert Casey, Governor Commonwealth of Pennsylvania  
Susan Hardinger, PACE  
Lois Gibbs, CCHW  
Charles Spencer, SFO, Secular Franciscan Order National Ecology Commission  
Stephen Couch, Penn State University  
Union Township Supervisors/Keystone Landfill Task Force  
Carroll County Commissioners/Keystone Landfill Task Force  
Arlen Specter, United States Senator  
Christopher Corbett, DM, USEPA  
Richard W. Clapp, Director Center for Environmental Health Studies  
Pamela G. Tucker, M.D.

AR501460

**Public Health Assessment  
Keystone Sanitation Landfill  
Hanover, Adams County, Pennsylvania**

CERCLIS NO. PADO54142781

October 4, 1994

For Public Comment

*Pennsylvania Department of Health  
under cooperative agreement with the  
Agency for Toxic Substances and Disease Registry*

**COMMENTS**

by

**MARY MINOR**

for

**CITIZENS URGE RESCUE OF THE ENVIRONMENT  
(C.U.R.E.)**

November 10, 1994

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## Line Comments

### COVER:

- Line 5:* Site is in **Adams County**, not York.  
*Lines 11 and 12:* Comment period is insufficient.

### TITLE PAGE:

- Line 3:* Site is in **Adams County**, not York.

### ATSDR PUBLIC HEALTH ASSESSMENT: NOTE OF EXPLANATION

- Line 3:* ATSDR has failed to collect comprehensive, "relevant health data, environmental." There are major data gaps in this "health assessment" (HA).  
*Line 6:* It is most unfortunate that ATSDR considers this HA as representing, "the Agency's best efforts, based on currently available information." The fact is that there is "currently available" much more "relevant" data than that which was reviewed for use in this HA.  
*Line 7:* The HA fails to adequately, "present(s) an assessment of the potential risks to human health..."; and falls short of the, "extent possible."  
*Line 14:* This HA contains material (again) which was corrected by this commentator in the June 28, 1993 comments. Why is this, since it is stated that, "Subsequent to the public comment period, ATSDR will address all public comments and revise or amend the document as appropriate."? (A simple example: the **site location repeatedly goes uncorrected.**) (1).

### FOREWORD:

- Line 11:* "The aim of these evaluations is to find out if people are being exposed to hazardous substances," has been achieved. **Yes, people have been and are being exposed.** Volatile Organic Contaminants (VOCs) and Inorganic Contaminants are found by USEPA in our drinking water, streams, and soil. The VOCs presence in drinking water supplies in our homes is sufficient to settle the exposure argument.

**The VOCs are there: they do volatilize into the air. Human beings are there and do breathe; thus they are exposed.**

- Line 13:* **Yes, "that exposure is harmful and should be stopped or reduced."** Relocation, filters, alternative drinking water supply and/or other options can mitigate.

**PREVENTION of exposure is necessary in order to stop the biologic health effects which the traumatic knowledge alone of toxic exposure can precipitate.**

"It seems well established that stress is capable of depressing for a period of time, immune functions carried out by lymphocytes and that the removal of stress is followed by a restoration of normal immune function." (2).

Science further provides through Psychoneuroimmunology that, "Recently, the new specialty has achieved relative independence due to considerable data acquisition . . . stress research has revealed relationships between neuroendocrine and immune changes . . . Psychoneuroimmunology examines the analogies and reciprocal influences, direct or indirect, between the nervous and the immune systems." (3).

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*Lines 20-22:* Exposure regarding, "how much contamination is there at the site" – realistically we **will never know this for sure**. Much of today's water quality data is not totally reliable and it is realized that, "As long as the results are not reliable, the quality of the water is unsubstantiated!" (4).

*Line 23:* "... where it is ...!?" No reasonable/knowledgeable person would assume to profess the ability to comprehensively answer this question. **We don't know**; accept to be able to show where contaminants were at given testing events.

"how the people come in contact with it" ... this we can know. The brain can be one of the first routes of exposure and the effects can be lethal. "Although scientists do not fully understand how it happens, intense psychological stress may trigger episodes of irregular heart rhythms that lead to sudden death." (5).

#### HEALTH EFFECTS:

*Line 29:* Since the review of the limited amount of environmental reviewed shows "that people have" come and may in the future come into contact with hazardous substances; then the ATSDR's scientists' evaluation should state that there will be harmful effects from these exposures and from the people's knowledge of their contaminated homes and environment for some of those exposed. The ATSDR has failed in this HA to make use of scientific information which would include the Psychoneuroimmunology studies and specialty. There is need to gather data on this and on the related immune and endocrine systems' functions in technological disaster (superfund site) communities.

#### CONCLUSIONS:

*Line 43:* Strike out, "if any." Risk to human health has been established at the Keystone Landfill site and the Foreword text is made more clear by this omission.

*Line 44:* This is to challenge that the, "ATSDR is primarily an advisory agency." In fact, "the registry's primary goal is to facilitate epidemiology studies relating to low-level, long-term exposure of persons living near dump sites may experience. There is also a commitment to update the files annually and to keep registrants informed of relevant information related to their personal exposure." (4).

For people exposed in the Keystone Landfill site community, their health effects when, "believed (by them) to be caused by exposure to toxic substances" may be real EMERGENCIES. Thus, the ATSDR should provide services (clinics) staffed by physicians of the communities' choice to address and mitigate. Forward information should identify this function as provided for by CERCLA. "In cases of public health emergencies caused or believed to be caused by exposure to toxic substances, (said administrator shall) provide medical care and testing to exposed individuals." (6).

Psychoneuroimmunology provides (in part) toward our understanding that stress related health effects can be an urgent health threat. ATSDR should issue a public health advisory warning people of the danger. Again, providing clinics and services will begin the process of data gathering and contribute to health education and be the beginning of pilot studies of the registries on stress related and other physical health effects. The people do have the right to know that in the case of Post-Traumatic Stress Disorder Syndrome victims, "For roughly half of these people, symptoms disappear within three months. But if symptoms persist beyond this time, research indicates they are likely to become chronic. The brain doesn't like to forget life threatening moments." (7).

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ATSDR should consider the following quotation as applicable to these issues and it is important to remember that, "If men define situations as real, they are real in their consequences." (8).

Some . . . "people with the KNOWLEDGE of toxic substances released into their homes and environment, do fall victim to ACQUIRED TOXIC EXPOSURE SYNDROME (ATES), regardless of the fact that levels may be perceived by government and industry to be below enforceable standards." (9).

Again, these physical health effects warrant a public health advisory. Will ATSDR comply?

#### INTERACTIVE PROCESS:

*Line 54:* Since the HA is (by design) an interactive process and consists of evaluated information from various government and community sources, it must be considered that the quality, consistency, and reliability of such information be the best possible. Also the use of summaries and limited data (such as use of only one document of recent publication, while failing to review historic data) is not comprehensive and fails to allow for discernment of the issues. When ATSDR fails to seek out and use sufficient relevant data to come to conclusions which it shares with other agencies for them to use in decision making processes, then ATSDR fails in providing accurate and current data. Historical data is relevant to and critical to assessments in superfund communities. As long as ATSDR uses insufficient data and information and re-reviews summaries (and not the body of information available) and as provided for in the health assessment Guidance Manual; the HA will "remain unsubstantiated."

#### COMMUNITY:

*Line 63:* ATSDR has failed prior to 1993, to meet its "needs to learn what people in the (Keystone Landfill superfund site) area know about the site and what concerns they may have about its impact on their health." The agency further did not "throughout the evaluation process . . . actively gather(s) information and comments from the people who live or work near the site, including residents of the area, civic leaders . . . and community groups."

#### SUMMARY:

*Line 19, Page 1:* Should read, "The site poses a public health hazard because of the exposures that result from past, current, and possible future use of the on-site residential well" . . . and some off-site residential water supplies. "Furthermore," . . . "contaminants from this aquifer" . . . have migrated . . . "to off-site residential wells" and "exposure to water from . . . affected wells could result in adverse health effects."

*Line 24:* Strike "which is not believed to be site-related," . . . This is not factual and, therefore, inappropriate.

*Line 29:* Insert **related to cancer** after the word community, since cancer mortality and cancer incidence data is noted as analyzed.

*Lines 33 and 34:* Again, scientific information "Chronic preoccupation with danger accompanied by the idea that there is little anyone can or will do about it is a source of traumatic stress in people's lives, arguably as significant as the physical hazard itself." (10). Thus,

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"water at sufficient levels to cause illness in exposed individuals." is not the only issue of concern because, "ATES and other stress related health effects can be experienced regardless of the levels of contaminants. Maximum Contaminant Levels (MCLs) and other standards are not the overriding factor. It is the knowledge of exposure that begins the biologic process and the brain is the target organ." (9).

*Line 1, Page 2:* The suggestion of this report regarding "groundwater contamination at levels of public health concern is not likely at a distance of more than about one half mile in any direction from the landfill." . . . is highly questionable. The suggestion was made without benefit of the May 1994 USEPA Fracture Trace Analysis (a glaring data gap). Also, the four references listed are evidence of other major data gaps. The Maryland State data sheds no light on the Pennsylvania portion of the site related contaminant migration. The third USEPA 1990 report referenced is by no means sufficient data to make a conclusive determination of the kind proposed by the report. The only other reference used in this document is the Open File on Keystone Sanitation Landfill from the PADOH, which may be grossly inadequate due to the attempted health assessments that fell far short of being comprehensive works; very little EPA data was referenced in this HA.

*Line 7, Page 2:* Delete: "(which is not believed to be site-related)."

*Line 10, Page 2:* After "near the site," add: (also chromium, barium, and manganese exposure at above the MCL's in some of the population).

*Line 11, Page 2:* After "lead," add: (barium, chromium, and manganese) . . . "exposure is indicated."

*Line 20, Page 2:* After "lead problem," add: (and also on barium, chromium, and manganese).

*Line 21, Page 2:* After "exchange on," add: (SOCIAL/PSYCHOLOGICAL/PHYSICAL ISSUES (such as is described in PSYCHONEUROIMMUNOLOGY), "which are important to the community).

*Line 22, Page 2:* ATSDR should reevaluate this site for additional follow-up health actions since data on health effects (such as psychoneuroimmunological) is considered to be "new data" that has "become available."

*Line 36, Page 2:* Information should be included on chromium, barium, manganese at above the MCs; also on the long-term/low-level exposure to VOCs and the synergistic action of the combined organic contamination on and around the site.

*Line 38, Page 2:* After "(RI/FS)," strike "will" and insert - (may). Again we remember that suspect water quality analysis data is a continuing reality and that, "As long as the results are not reliable, the quality of the water remains unsubstantiated." (4).

*Line 5, Page 3:* After "assessment," add: (and SOCIAL/PSYCHOLOGICAL/PHYSICAL health effects that are stress related (as in Psychoneuroimmunology)).

#### BACKGROUND:

*Line 12, Page 4:* Strike the word "sanitary." This site began and operated as an open dump and was listed on the USEPA OPEN DUMP INVENTORY in 1981.

*Line 19, Page 4:* After "contamination," add: (and three other off-site residential wells also showed VOC and one of these residential wells revealed forty-nine PPBs lead).

*Line 23, Page 4:* Strike the term "low-level."

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*Line 28, Page 4:* Delete, "About 2 ft. of clean soil covers the landfill." This has not been determined. In fact, public records refer to daily cover violations at the site.

*Line 30, Page 4:* Strike "and the leachate is disposed of off-site." If the reference is included, it should include the "off site" facility which takes and treats the leachate.

*Line 36, Page 4:* After "The," insert (Interim).

*Line 37, Page 4:* **This is our first notice of this! Why were we not informed that our health was assessed?**

*Line 3, Page 5:* "This public health assessment evaluates information gathered after the preliminary assessment was conducted." The major portion of the problems with these attempts at conducting health assessments at this site by ATSDR is due to the foregoing stated facts. The first HA was done without public knowledge, input, or comment. The second HA attempt involved minimal involvement with the public on one occasion in December 1990. Other problems are the lack of Medical Doctors (MDs), clinical data, and comprehensive materials review (both in medical science and environmental data in the public record regarding this site). Another serious issue is the poor quality data (which will not likely change). The best way to assess human health is interaction with and information gathered from the public and medical science.

*Line 4, Page 5:* It should be noted that "new work" and yet to be gathered information may again present more of the same problems as have been faced in the past. Public input and correction of the many errors which the government produces will better the records but not solve the problem because agencies keep flooding the community with more and more grossly erroneous documents.

*Line 10, Page 5:* Omit "The group saw no evidence of any contamination." and "which is covered with about two feet of clean soil."

Delete the sentence that begins, "The Group . . ." This is irrelevant as contamination is not "visual." Furthermore, the ground water that is contaminated is not in view on the site. Also, the "horseshoe-shaped ridge; which is covered with about two feet of clean soil," is not a "ridge." It is garbage! The landfilled waste was placed in a valley and (again) the two feet of clean soil is debatable. Please strike the sentence.

*Line 12, Page 5:* This record should show that people in the community are concerned that the **"not easily accessed pond" should not be accessible at all by anyone except site residents.** Any breach in fencing is objectionable.

*Line 25, Page 5:* Two site visits and four reviewed references is not sufficient to allow a comprehensive and professional hydrogeological groundwater report to be made.

*Line 29, Page 5:* It is not clear just what relevance that a tour of "pertinent site areas on November 3, 1993 by the statistician, Mr. Thomas Hartman, B.A., has to the health conditions of people in the community. None of the citizens were contacted nor was any inquiry as to their health conditions or concerns made by Mr. Hartman or Mr. William Schmeer, his companion. It is abundantly clear to the local residents that the time on the tour could have been better spent with interaction with us than was taken to look at sampling locations, monitoring wells, the site perimeter, and "noted features of interest." What 'features'? - and what do they have to do with the ability to do a health assessment? Both Hartman's and Schmeer's area of expertise are far removed from the need to look at well heads, natural terrain, and whatever else was viewed by them in the area. Just how were their observations used in the health assessment?

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*Line 6, Page 6:* The word "likely" should be deleted. Strike "almost" and add: (and ground water springs" after the word "wells).

*Line 1, Page 7:* The Conestoga Limestone Ridge should be referred to correctly as such.

*Line 2, Page 7:* Should read – **Most surface water runoff that flows from the north of the site to an unnamed perennial tributary of Conewago Creek which originates with feeders on the landfill site.**

#### HEALTH OUTCOME DATA:

Of this section, it is sufficient to comment that the review of fetal losses after sixteen weeks' gestation and Cancer Incidence Mortality in Pennsylvania, 1987-1991, represents a glaringly inadequate body of work with which to do a health assessment for any community. The addition of the December 1990 one-time interview with several PACE and CURE members and the review of our concerns (gathered on this one-time basis) also falls short of the information necessary to do a responsible and comprehensive health assessment.

*Line 30, Page 7:* Delete the words "two active," and add: (four). The four groups are necessary in order to represent the several governments involved, and should be recognized. Hanoverians Endangered by Landfill Problems (HELP), and Citizens (CARE) are the other two Pennsylvania groups.

*Line 34, Page 7:* After the word "officials," add: (Carroll County Maryland Commissioners, the Pennsylvania House, United States Senate, and The United State Congressional Representatives).

*Line 3, Page 8:* Please strike, "follow-up." This is wording that something had occurred prior to the December 9, 1990 date. Area residents identify this as the first meeting with them and any actions of looking at the local roads, well heads around the site, and local natural terrain are viewed as having nothing to do with the health assessment process and their concerns about the health of our families.

*Line 8, Page 8:* According to the CERCLA Statutes, the fact that, "Some area residents believe that the Keystone Landfill site is causing health problems.", should be the basis on which ATSDR can provide medical tests and help to area residents.

*Line 16, Page 8:* The reference to, "another health problem" is well described by Dr. Stephen Couch, Penn State University, **"THE SOCIAL EFFECTS ARE REAL! THE PSYCHOLOGICAL EFFECTS FOLLOW! THEN THE PHYSICAL EFFECTS ARE EXPERIENCED! DON'T BLAME THE VICTIM!"** This should be made clear in the text as a major community health concern.

*Line 5, Page 9:* It should be clearly noted that the citizens, and their Township Officials and State Representative in cooperation with Dr. Stephen Couch of Penn State University all cooperated and planned this "public information forum." This effort should not be in any way perceived as part of the ATSDR health assessment as provided for by the agency. This could cloud the issue in respect of the agency's chronology of provision of services to the community.

*Line 20, Page 9:* After the word "residents," insert "but not the only means."

*Lines 3 and 4, Page 10:* This health assessment should clarify in what way the representation of Mr. Schmeer has been beneficial and how it was used in the health assessment report. Can the community assist in any way to enhance his visits to these meetings in order to further maximize the effects of his participation? It has been noted that there do not

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seem to be many questions or dialogue during the meetings with Mr. Schmeer. He is welcome to increase his participation and information-gathering efforts if this would help in the health assessment.

*Line 7, Page 10:* Because of such concerns as people with Multiple Chemical Sensitivity and other synergistic effects, **ALL CONTAMINANTS** at the site should be **CONTAMINANTS OF CONCERN**.

*Lines 8 and 9, Page 10:* A considerable body of scientific information exists that is sufficient to show that this site and the resulting knowledge of contaminants in the environment does and has "public health significance."

#### ON-SITE CONTAMINATION:

*Line 2, Page 11:* Because the discussions in this section are about "data collected during the RI," this entire page and the next page (12) are not sufficient to assess the health of persons living in the community. Whatever knowledge of potential and actual physical exposure to toxic substances from the site **did not necessarily occur at one time. There is absolutely no moral, scientific, or common sense justification for this or a health assessment (anywhere) to be reported to the public based on such a limited review of information.**

This health assessment (when and if it is done again) will not be acceptable to the community if it is not performed with the guidance of the affected stakeholders. This is our health and our community. **No further attempts at assessment of the health of persons in our community may be done unless ALL public data and relevant information is considered according to the wishes of the people.**

What is present throughout its monitoring history has potential to migrate off-site and cause toxic exposure for local residents. Pages 11 and 12 should be stricken from the health assessment as non-comprehensive, and any further discussion based on this data also should be deleted from this record. Do it right or not at all!

#### OFF-SITE CONTAMINATION:

This entire section should also be deleted for reasons of inadequate information review and erroneous statements.

#### COMMENTS:

- Lack of quality control / quality assurance information is not sufficient reason to ignore data entirely. Most state and federal agency data is published with qualifiers. Very little data generated by USEPA would ever be considered if we wait for "control" and/or "quality" in results.
- "Vinyl chloride . . . in October 1985" . . . the only report of vinyl chloride in any residential well in the SUMMARY report." (If ATSDR will cooperate with the citizens, we can show the agency how to do a health assessment. **Vinyl chloride positively has been found in other residential well water. Summaries are not sufficient review data/information to do a health assessment).**
- Of course, "sampling results were not reproducible when successive samples were collected from the wells." **GROUNDWATER MOVES! CONSTANTLY!** Strike this statement - it is irrelevant.

#### GROUNDWATER-MONITORING WELLS AND RESIDENTIAL WELLS:

This section also has major data/information gaps and should be deleted along with any written discussion of Tables 3 and 4.

- For example: (Errors) **Vinyl Chloride (11), Benzene (12), Chromium (11), were found in off-site residential wells.**
- For further confusion and lack of continuity: Example (Tables 3 and 4) – moves back and forth between (ug/L) and (mg/l) or PPM. Please correct.

#### SURFACE WATER AND SEDIMENT:

- More errors: For example, **Pennsylvania surface waters did contain volatile organic compounds and inorganic compounds above MCLs. (11) and (12). Direct contact could pose a physical toxic exposure. We do have small children, and our streams are not fenced.**

#### PHYSICAL AND OTHER HAZARDS:

*Lines 19 and 20, Page 16:* "The pond could pose a drowning hazard to a child in the unlikely event a child could enter the partially fenced property." Please delete, "in the unlikely event." This is an opinion, and not a well thought out one, as the site is only "partially fenced." Also, please delete the first sentence except for the words, "A small pond is on site."

#### PATHWAYS ANALYSIS:

*Line 22, Page 16:* The first sentence should read, (Nearby residents are exposed to contaminants migrating from the site). (13) and (11). Please correct.

*Lines 32, 33, and 34, Page 16:* An exposure pathway that cannot be eliminated is the knowledge that contaminants are migrating from the site into residential wells (13) and (11); and exposure to toxics is perpetually a possibility as long as the site exists and thus will always "be present."

*Line 4, Page 17:* "No other potential pathways were identified." Please strike this sentence and clarify (with citizens and scientific studies) that there is at least one other **identifiable exposure pathway – the brain and body, as it is traumatized by the knowledge of toxics at large in drinking water, surface water, soil, sediment, and air!**

*Lines 10 through 16, Page 17:* Please strike these sentences. When wells are drilled or dug nearby to streams, those wells can draw water from those streams; thus, the water from streams on the surface becomes drinking water and can result in a completed exposure pathway.

#### COMPLETED EXPOSURE PATHWAY:

*Line 18, Page 17:* After "on site," add: (and off site).

*Line 19, Page 17:* Should read, "on-site and some off-site private wells and springs contain VOCs and metals." (11) and (12). Please correct.

*Line 26, Page 17:* After "occasions," please state (other off-site residential wells and/or springs have demonstrated VOC and inorganic contamination).

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*Line 27, Page 17:* After "Lead, at a maximum of," please insert (49 ug/L). (12).

*Lines 28 and 29, Page 17:* Strike "and have not been exclusively associated with the site."

*Line 38, Page 17:* Please insert after the word "ingestion" – (and possibly through inhalation of droplets in showers).

#### POTENTIAL EXPOSURE PATHWAY:

*Line 2, Page 18:* Strike "could be" and insert (have been). Also strike the word "if," and add: (since).

*Line 7, Page 18:* Delete the reference that begins "A hydrogeologic" and ends with "the report."

*Line 9, Page 18:* Substitute "because" for "should," and strike "any of the."

*Line 10, Page 18:* After "well water," delete "would be" and insert (in some private water supplies have been).

#### PUBLIC HEALTH IMPLICATIONS:

*Line 13, Page 18:* To discuss only the "health effects that may occur in persons exposed to site contaminants present in site groundwater" is **DISCRIMINATION**. All exposed persons must be considered in this section. Again, **exposure begins with the knowledge of the toxic contaminants at large in the environment** and the **threat of exposure**; and there has been off-site residential well contamination and thus the health effects of exposure of persons off site should have been included in the health assessment.

#### TOXICOLOGICAL EVALUATION:

*Line 17, Page 18:* This toxicological evaluation fails to adequately assess the health effects at this site. To begin with, there is failure to acknowledge that harmful effects can and do occur beginning with the knowledge of the migration of contaminants off site into community homes (including drinking water) and environment. Factors used in determining health effects should include (but not be limited to):

- the knowledge of exposure
  - chronic exposure (physical and psychological)
  - long-term/low-level exposure (should be specifically dealt with)
  - synergistic effects of exposure to chemicals at the site
  - one time exposures (single hits), to above MCLs that result in bioaccumulation
  - the danger of even a future low-level exposure event
- should be realistically dealt with in the health assessment.

*Lines 24 and 25, Page 18:* This should be deleted, and also any discussion that fails to acknowledge and comment on the fact that **knowledge** of one's poisoned drinking water and environment can result in adverse health effects (regardless of the levels of contaminants).

*Line 29, Page 19:* After "site," insert (some private drinking water supplies on site and which is used by the owner and off site contain site related contamination). (11), (12), and (13).

*Line 31, Page 19:* After "on," insert (the residential on site).

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*Line 33, Page 19:* Strike the sentence, since **VOCs and Inorganics have been found in some off-site residential water supplies** and the fact that "contaminants were not found in subsequent sampling rounds" is an obvious fact and because **ground water does MOVE!** There is no need to keep repeating the obvious, and it has no bearing on the issue.

*Lines 34, 35, and 36, Page 19:* Strike sentence beginning with "Short-term" and ending "further."

*Lines 36 and 37, Page 19:* **All contaminants found in private water supplies, both on-site and off-site, are toxicologically important because of long-term/low-level effects, synergistic effects, psychoneuroimmunological effects (Social/Psychological/Physical), and the unknown effects of the chemicals which have been found and are not identifiable.**

*Lines 37, 38, 39, and 40, Page 19:* Strike "not necessarily site related" and "none of which are believed to be site related." **This wording is pervasive throughout this document.** All such references are opinion, and worse, are opinion based on selective or omissive use of data and facts. **All such references should be removed from this health assessment.**

#### **TRICHLOROETHENE (TCE):**

*Line 2, Page 20:* After "on-site" add: (off-site). After "through," add: (knowledge of contamination).

*Line 4, Page 20:* After "it," add: (if any of the installed filtration systems do not).

*Line 5, Page 20:* Delete the sentence which begins, "A maximum" and ends "water." It is premature for ATSDR to make such a statement since ATSDR has failed to review and include all site related information available.

*Lines 8, 9, and 10, Page 20:* Strike the sentence which begins with "Neither" and ends with "exposure."

*Lines 10, 11, and 12, Page 20:* Strike the sentence which begins "Because" and ends with "time." Such a statement would be incorrect because it is made on the assumption that all affected residential wells have installed treatment systems which have "reduced or removed" contaminants. Also, the statement is erroneous as the agency presumes to include this without benefit of review and use of all site related information available.

*Lines 12 and 13, Page 20:* Should be corrected to say, (If – contamination at **any level** continues, filtration systems fail (where installed), adverse health effects are reported [including but not limited to] Psychoneuroimmunological [Social/Psychological/Physical]; then the public health impact will be evaluated).

#### **TETRACHLOROETHENE (PCE):**

*Line 27, Page 20:* After "on-site," add: (and off-site). (11), (12), and (15). After "through," add: (knowledge of contamination).

*Line 29, Page 20:* After "if," add: (any of the installed filtration systems on residential wells do not function properly, or other area wells which have not been tested or were previously of a non-detect status show contamination).

*Lines 32 and 33, Page 20:* Strike the sentence beginning, "The maximum" and ending "27 ug/L." Such a statement cannot be made until/unless **all** available site related data is demonstrated to have been reviewed and used.

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*Lines 33, 34, and 35, Page 20:* Strike sentence beginning with "If the" and ending "Rfd"; since the health assessment has not adequately established a "maximum level of PCE found."

*Lines 35, 36, and 37, Page 20:* Strike also the lines beginning, "Therefore," because neither all "people who have been exposed to PCE" nor the quality of their drinking water have been evaluated by this attempted health assessment. (11), (12), and (15).

#### VINYL CHLORIDE:

*Line 8, Page 21:* After "on-site," add: (and off-site). (11). Delete "probably."

*Line 9, Page 21:* After "through," insert (knowledge of exposure).

*Lines 10 and 11, Page 21:* Delete sentence beginning "Vinyl chloride" and ending "not likely."

*Lines 12 and 13, Page 21:* Strike "and if off-site residential wells become contaminated" – because **the fact is there is other residential [vinyl chloride] well contamination.** (11).

*Line 15, Page 21:* Strike the sentences beginning "The concentration" and "Therefore" since it is yet not demonstrated that ATSDR has reviewed and used **all** site related data.

*Line 17, Page 21:* Strike "Therefore," and add: (cancer and). After "on site," add: (and off-site).

*Line 27, Page 21:* After "can cause liver cancer (6)," add: **(chronic low level vinyl-chloride exposure may cause angiosarcoma of the liver, an extremely rare form of cancer).** (16). The omission of the foregoing information is a **glaring gap** in this poorly attempted health assessment. Chronic low level exposure is a real possibility for people in our community, and the citizens have **the right to know this "chronic low level" (environmental alert)** information from 1990.

*Line 18, Page 21:* After "on site," add: **(off-site).**

*Line 30, Page 21:* This "40 ug/L" can only be confirmed after **complete** review and use of data.

#### 1,2-DICHLOROETHYLENE (1,2-DCE):

*Line 33, Page 21:* After "on-site," add: (off-site). (11), (12), and (15). After "through," insert (knowledge of contamination). (2), (3), (5), (7), (8), and (10).

*Line 36, Page 21:* Change "system does not," to say (systems do not), and add: (and additional wells are tested and found contaminated and previously non-detect (tested) water supplies show contamination).

*Lines 2 and 3, Page 22:* Strike the sentence beginning with "Only." The statement is untrue. (11).

*Line 4, Page 22:* Strike the sentence beginning with "The maximum," due to incomplete records review and use.

*Lines 5, 6, 7, and 8, Page 22:* Delete these lines beginning with "Exposure." They refer to a "maximum level" which was based on insufficient information.

*Line 9, Page 22:* Strike the words "has not been classified as to carcinogenicity." Add after "compound," (trans-1,2-DCE (13), appears on the updated (7/14/94) USEPA list in the Cancer Group D).

#### LEAD:

*Line 14, Page 22:* Strike the sentence beginning with "The lead." This is opinion and not even based on adequate information review and use and has nothing to do with attempting to assess our state of health.

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*Line 15, Page 22:* What does this mean? If the land at the Keystone Landfill site is **proven** to have some remarkable "Elevated, naturally occurring lead levels," then document the reference in this public record or delete.

*Line 16, Page 22:* If this statement is factual, then have the investigative efforts by the assessors also identified "increased levels of **lead** in tap water," "found in homes where lead solder has" **not** "been used in plumbing."?

*Line 18, Page 22:* Strike "are not" and insert (may not be). Any route of exposure may become a "significant" given.

- Small amounts of lead inhaled in water droplets in showering and bath activities, especially children.
- Exposure is experienced by a person with previous exposure and body burden of lead.

*Lines 28 through 32, Page 22:* As this paragraph states, the unborn and children are the most at risk ("most sensitive"), and biological tests would confirm health effects if occurring. Yet **nothing is done! No tests are made available - no physicians** are here to gather clinical data - and WHY NOT? When will ATSDR begin to make such services available? Additionally, these two wells with reported 17 ug/L and 26 ug/L may not be the only two known lead contaminated wells. Certainly another well poisoned with 49 ug/L with two small children and the mother pregnant with another baby fared no better than these two current identified families with lead in their water. How long will the USEPA, Department of Health and Human Services, and ATSDR continue to fail our children? ATSDR has failed to examine all the public records on this site that would identify the victims of a contaminated environment and drinking water.

*Lines 34, 35, and 36, Page 22:* Strike "Therefore," and the entire remainder of the sentence, because ATSDR not only has failed to adequately identify where all lead exposure has occurred, but has also failed to discern at what levels all lead exposure has occurred. Furthermore, the agency has failed to find who and where other exposed persons may be. The review of one EPA Contract No. 680-01-7403, is grossly inadequate material on which to base a health assessment. (ATSDR, Ref. 1).

We were alerted in 1990 that, "Blood levels once considered safe are now considered hazardous, with no known threshold." And we know that "EPA's proposed goal for lead in drinking water after treatment is **zero**."

The same alert advises that, "**Lead poisoning is a wholly preventable disease.** Therefore **CURE challenges** the ATSDR, USEPA, and the United States Department of Health and Human Services to begin preventing lead poisoning and other public health effects from toxic exposure **NOW!**"

*Line 4, Page 23:* The health outcome data analysis (cancer and pregnancy) is not adequate to assess our community health because many families moved and, therefore, would not be included in the data.

*Line 31, Page 24:* If the public records available for ATSDR to review had been used then it would be factual to state "there is...risk of developing cancer through use of on-site and off-site well water." (11), (12), and (13). Please correct.

*Lines 32, 33, 34, and 35, Page 24:* Strike balance of the paragraph beginning with "No site related" because (there have been site related carcinogens detected in off-site private wells and contaminants have migrated to private wells). (11), (12), (13), (15), (16), (17), (18), and (19).

*Lines 1 and 2, Page 25:* To begin, all contaminants at all levels are of public health concern in off-site private wells, considering psychoneuroimmunological and other stress related/physical health effects. Further, since lead is the only contaminant of "concern" which ATSDR's assessors found, **our comment is: LOOK** in the public record and in all the right places and **you will find**. Again, all data has not been reviewed.

*Lines 2 and 3, Page 25:* Strike sentence beginning "That contaminant." This is irrelevant to a health assessment.

*Lines 8 and 9, Page 25:* Strike the sentence beginning "No chemical." This statement is incorrect. Assessors just simply did not review and use the material that reported the chemicals "detected" and the "levels." (11), (12), (26), and (27).

*Lines 21 and 22, Page 25:* Strike sentence beginning, "As in." Again, the assessors failed to review adequate data.

*Line 26, Page 25:* Strike the entire paragraph. The Pennsylvania Health Department, as contracted assessors for ATSDR, has failed according to this health assessment to comprehend and to state in the attempt at assessing our community's health that . . .

**Psychological Stress and Resulting Adverse Physical Health Effects** have been widely studied by the scientific community. A body of at least 10,000 papers have been produced in the last 100 years.

"It seems well established that stress is capable of depressing, for a period of time, immune functions carried out by lymphocytes and that removal of stress followed by a restoration of normal immune function. It has been established also that CNS and immune responses are established by behavior." (2).

Exposed people have the right to know that studies have shown that, "After discovering that their homes had become contaminated by toxic dumping . . . For about half the subjects, functioning levels were seriously impaired." (21).

"Numerous studies for the past one hundred years have established a causal relation between the inhibition of expression of traumatic experience and psychophysiological impairment. Those studies have demonstrated a marked increase in symptoms of the respiratory, digestive, cardiovascular, and endocrine systems in people with Post Traumatic Stress Disorder/PTSD." (Janet 1889: Krystal, 1978). (22).

ATSDR should primarily be aware and acknowledge that **for people in communities that host superfund sites, their trauma is never post (past)**. Thus the trauma is as perpetual as the superfund site remains forever, and the trauma and related adverse health effects are chronic. So, Acquired Toxic Exposure Syndrome/ATES, and other stress related health effects such as Psychoneuroimmunologists identify may be results of the knowledge of toxic exposure.

"Recently, the new specialty has achieved relative independence due to considerable data acquisition . . . stress research has revealed relationships between neuroendocrine and immune changes . . . Psychoneuroimmunology examines the analogies and reciprocal influences, direct or indirect, between the nervous and immune system." (23).

"Generally speaking, stress is a process in which environmental or psychological events called stressors, come to threaten an organism's safety and well being. Typically, after the threatening event is perceived, it is met with a response, part or all of which is directed at reducing the danger or minimizing its effects on the organism (e.g., Lazarus, 1966)." (24). For ATES victims, seldom is there a "reducing the danger or minimizing

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its effects" experience; just chronic exposure and chronic trauma that compound the effects.

ATES and other stress related health effects can be experienced regardless of the levels of contaminants to which a victim is exposed. Maximum Contaminant Levels (MCLs) and other **standards are not the overriding factor** in this discussion. **It is the knowledge of exposure** that (for victims) begins the biologic process, and the brain (psyche) is the target organ.

Just what the limit to the number of traumatic stress experiences one can tolerate is unknown for each individual. And the worse case scenario is death for some victims. "Although scientists do not fully understand how it happens, intense psychological stress may trigger episodes of irregular heart rhythms that lead to sudden death." (25).

ATSDR indicates on page 25 that "information is not conclusive," in stress effects studies. This is hardly a valid statement until and unless the PADOH who wrote the health assessment can demonstrate that a comprehensive review of the available studies has been accomplished and used in this health assessment attempt, and that clinical data has also been gathered from medical intervention in the community and used in the health assessment process.

It is emphasized that, "chronic preoccupation with **danger accompanied by the idea that there is little anyone can or will do about it is a source of traumatic stress in people's lives, arguably as significant as the physical danger of the hazard itself.**" (10).

This portion of comments is concluded with a reminder from Dr. Stephen Couch, Penn State University, "The **social effects are real; the psychological effects follow; then the physical effects are experienced. Don't blame the victims!**"

*Line 14, Page 26:* It is agreed that "synergism is not well studied for hazardous materials," and that "more research is needed." For these reasons, **it is responsible to consider synergistic effects as a danger to human health until further studies prove the effects conclusively to be safe.**

*Lines 22 and 23, Page 26:* It is astonishing to read that ATSDR believes that our drain water can be "in our neighbor's well water tomorrow." If ATSDR really subscribes to such a thought, then the agency should acknowledge that the water which is in the monitoring wells at the landfill and surrounding monitoring wells and residential wells can "be in neighboring wells tomorrow." Please respond.

*Lines 30 and 31, Page 26:* Strike "or may not have been there at all."

*Lines 2 and 3, Page 27:* These comments have submitted scientific studies which demonstrate that there are adverse health effects which are not dependent on exposure to "levels above enforceable regulations."

Since EPA can take action when "a health agency, such as ATSDR, supports such an action;" then we ask ATSDR to support the furnishing of an alternate water supply to the residents around the Keystone Landfill superfund site. There is scientific evidence that the knowledge of the water contamination is harmful to some residents. Medical evidence must be gathered. This should have begun in 1982. The mitigation and intervention is fourteen years late.

*Line 8, Page 28:* CURE requests the April 1994 proceedings on the Low Level Exposure to Chemicals and Neurobiologic Sensitivity Conference.

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*Line 11, Page 28:* CURE requests information regarding the proposed funding plan, and the status up to date of implementation on the State of California Department of Health Services low levels susceptibility to chemical exposure.

CURE commends ATSDR for the agency's leadership role in serving as a "conduit of knowledge" about these issues.

*Lines 11 through 26, Page 29:* "following guidance in conducting public health assessments."

Health assessors have been allowed to exercise so much "flexibility" in implementing their "health assessment activities" that the public/community has been endangered continuously ever since the health assessment process began (12/18/85); and without notification to the public.

The government became aware of the on-site and off-site "severely-degraded groundwater" in the mid-1970's (inorganic contamination). Public officials became aware as results of **on-site and off-site residential water supplies** sampling event (12/7/82) showed Volatile Organic Contamination (VOCs). The levels were **so high** that the **PADER** notified a public official/owner of Keystone Landfill **"advised that water not be used for human consumption."** (11), (12). The local public community was not made aware, thus were potentially subject unknowingly to exposure to hazardous substances in their drinking water, soil, air, and local food supplies. "Policy" and "Guidance" documents designed (hopefully) to protect public safety, health, and welfare should never be so "flexible" as to have the effect of conversely endangering the public health, and this is what (in fact) has occurred, as follows:

- "(12/18/85) Memo: Acting Director Health Assessment ATSDR, Stephen Margolis, PhD., to Charles J. Walters, Public Health Advisor, EPA Region III, RE: Keystone Landfill." This was the beginning of the ATSDR/health assessment problem at Keystone Landfill.
    - \* "February 1984, hired a laboratory . . . Results . . . presence of some chlorinated organic and some inorganic compounds in the groundwater." (This is inaccurate. "Chlorinated" may be misleading. Volatile Organics [solvents] were detected [some carcinogenics and above MCLs], and no inorganics were sampled.)
    - \* (This memo failed to include the April 1984 off-site residential well sampling event which revealed both VOC and inorganic contamination; and some above the MCLs.) The memo only mentioned "EPA . . . sampling . . April and August 1984 . . . demonstrated chlorinated organic levels in the landfill monitoring wells." (The local residential well contamination found by PADER was ignored.)
    - \* (This misleading, inaccurate, and inadequate review was based on the following documents):
      - One page Briefing Statement – Keystone Landfill
      - Keystone Landfill Site Sketch
      - Keystone Sample Map
      - Keystone Laboratory Results – 10/25/85 (two pages)
      - Memo from Jerry Heston, OSC, to Dr. Abraham, ATSDR, RE data summary for Keystone Landfill, November 13, 1985 (a total of sixteen lines)
- (This is a glaring data gap review.)

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- "October 1985 . . . on-site sampling . . . monitoring wells . . . four (off-site) residential wells . . . soil . . . surface water.
  - \* "results . . . groundwater . . . on site . . . wells #1 and #5 are contaminated . . . well #1 is contaminated . . . the 1,1-dichloroethene . . . was 90 (ppb). The chromium from M.W. #5 was 59 ppb. Off-site chromium . . . (119 ppb) at one nearby resident's well (Station 03.10)." (Note that EPA published these results with no qualifiers which would call into question validity of the results) "and in the soybean field (102 ppb) outside the landfill (Station 22). Elevated selenium (100 ppb) and cobalt (681 ppb) on the soybean field (Station 22).
    - EPA's MCL for chromium is 50 ppb.
    - Off-site residential well exceeded the MCL.
    - If the chromium concentration is accurate, the water is not suitable for drinking." (This is to make special note here that Station 03 is the commentator's drinking water well and that this memo is not written to the resident who was not informed of the potential danger).
    - "There is a strong possibility that this laboratory value is in error." (Conversely, it is possible that the "value" was not "in error," thus endangering the residents).
    - "Conclusion: Keystone Landfill, although contaminated, does not pose any immediate adverse health effects."
    - (Station 03) "[the Minor family well]" may be in error.
    - There appears to be off-site migration of contaminants.
    - Recommendations:
      1. Resample . . . Station 03.
      3. Monitor contaminate movement at Station 22.
        - Why was there only one station resampled?
        - Why were the other stations not called into question?
        - How could ATSDR use all the other data resulting from this sampling event to make the conclusion that "there appears to be off-site migration of contaminants" and discriminate against the Station 03 as "in error?"
        - Several months later, Station 03 was resampled [early 1986]. Above MCL was not detected.
        - The matter was never pursued by ATSDR.
        - The family was not contacted to inquire about health concerns.
  - If the comments made on this section of the health assessment are not sufficiently demonstrative to the Chief, of the Program Evaluation, and Records, and Information Services Branch, that the health assessment process at Keystone Landfill is grossly omissive and incorrect as well, then please call CURE for an in-person presentation.
- These comments were made specifically regarding the 11/13/85 ATSDR/EPA interagency memo to demonstrate that because the health assessment process has been based on such a **BAD** beginning, nothing that follows has any value to anyone.

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- The October 11, 1988 health assessment is valueless also to the community. We never even knew our health had been "assessed" until we read about it on page 4 of the October 4, 1994 health assessment. This is ludicrous! And not one single family was asked about their health effects.
- ATSDR's "policy" to grant "flexibility" to assessors in the health assessment implementation Guidance Manual has in effect rendered the health assessment documents at this site almost useless.
- More extensive public health actions are now necessary than would have been needed here if the health assessment had been done with more stringent adherence to the statutes and the ATSDR Guidance Manual.
- Now, after more than a decade of chronic trauma and neglect, services to the community to mitigate adverse health effects from being exposed to a severely degraded environment and quality of life along with the social and economic negative effects, will cost infinitely more. "Why is there always enough time (and money) to do it over, but never enough time to do it right?"
- These comments are designed to demonstrate that health assessments as they have been conducted in the past at this site must cease.
- "Whenever in the judgement of the Administrator of ATSDR it is appropriate on the basis of the results of a health assessment, the Administrator of ATSDR shall conduct a pilot study of health effects for selected groups of exposed individuals in order to determine the desirability of conducting full scale epidemiological or other health studies of the entire exposed population." ELR Stat. CERCLA 15 42 USC 9604 CERCLA 104 (i) (7) (A)."

(Psychoneuroimmunology studies are needed and clinics to begin clinical data gathering.)

"A health assessment is the evaluation of data and information on the release of hazardous substances into the environment in order to assess any current or future impact on public health, develop health advisories or other recommendations, and identify studies or actions needed to evaluate and mitigate or prevent human health effects." (55 Federal Register 5136, February 13, 1990, as codified at 42 Code of Federal Regulations Part 90). It is believed by CURE that these comments on the health assessment are sufficient to demonstrate that mitigation and preventative actions are more than a decade overdue. Future adverse health effects can be in some measure mitigated and/or prevented. The **STATUTES ARE NOT FLEXIBLE!**

*Line 26, Page 29:* CURE proposes to work with ATSDR to "improve guidance offered to health assessors," both on a Keystone Landfill site specific basis and on the National Citizens Over-site Committee as well.

*Line 34, Page 30:* Strike this paragraph beginning "The second" and ending "may occur." (**All contaminants are of concern**, as stated previously.)

*Line 8, Page 32:* After "lead," insert (arsenic, manganese, barium, chromium). After "occurring to the on-site," add: (and to the off-site residents). (11), (12).

*Line 9, Page 32:* Strike "which may not be site related," and insert (arsenic, manganese, barium, chromium, and VOCs).

*Line 11, Page 32:* Again, many families have moved; thus, data gap exists.

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*Line 13, Page 32:* Strike the sentence beginning "Some," . . . **"There ARE stress related health effects here.**

**RECOMMENDATIONS:**

*Line 4, Page 33:* After "verify," add: (whether or not the water quality deteriorates with time).

*Line 6, Page 33:* After "system," add: (and capping the site).

*Line 9, Page 34:* After "MDE," add: (USEPA and CDC). (These two added agencies would certainly have interest in the process which includes such information exchange activities as the ATSDR/Keystone Task Force Workshop planned for April 4, 1995 in Silver Run, Maryland.)

*Line 16, 17, and 18, Page 34:* **THANK YOU, ATSDR! Now please move to prove that you will "mitigate" and "prevent."**

*Line 23, Page 34:* After "lead," insert (we request also information for those exposed to arsenic, manganese, barium, chromium, and VOCs).

*Line 8, Page 35:* After "cooperation with," insert (The Keystone Landfill Task Force).

**Thank you** for the cooperative workshop planned for April 1995, and the opportunity to comment.

Respectfully submitted,

*/s/ Mary Minor*

Mary Minor, SFO  
Director, C.U.R.E.

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